

WE THE PEOPLE OF SINGAPORE

Marvyn Lim Seng wants to change mindsets and inspire the can-do spirit in his fellow countrymen — by attempting to send the first Singaporean into space.

BY LAUREN TAN

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With the assistance of the Australian government and a team of volunteers, Marvyn Lim Seng attempted to cross the Armstrong line in the Quantum 1 space capsule, which was launched from Alice Springs in Australia

By conventional standards, Marvyn Lim Seng sounds crazy — not in a loopy way but in the sense that he's intensely enthusiastic and passionate. If one prefers, alternate descriptors could be “maverick” or “patriot” (terms he himself uses) or the kindlier adjective, “philosophical”.

In late May, by his own design, the 58-year-old attempted to send himself across the Armstrong line — 20km above sea level, the point at which saliva starts to boil if you're not in a spacesuit — in Singapore's first space capsule, by deploying the same high-altitude stratospheric balloon used by NASA and Russia for space missions.

Mind you, Lim is neither an astronaut nor does he run a space agency; he is a private citizen, albeit one with more graduate degrees than most. And rather than a team of 50, he was supported in his quest by just nine volunteers, all of whom have regular day jobs ranging from fire-fighting to digital solutions.

“Many ask why we do this?” he says, as we sit for his fifth coffee of the day not long after his return from the launch site in Australia's Alice Springs.

“But the better question is why do we care to do this? We care to do this because we want to champion a change of mindset and mentality in Singaporeans.”

“We want to show ourselves, not others, that us Singaporeans from a tiny red dot can do big things,

given courage. We need not be followers. This is especially timely as we celebrate the bicentenary of our colonial past.”

After six years of preparation and two prior thwarted attempts, the team launched the single-seat Quantum 1 at 0645 (Australian Central Standard Time) on 31 May, with Lim as its pilot. During takeoff, an unexpected ground impact — from when the strato-balloon disengaged from the launch crane — compromised the integrity of the capsule, necessitating the activation of abort system protocols 19 minutes into the flight.

The fact that Lim's space flight had to be aborted is inconsequential. What matters, he hopes, is that his team's display of leadership and can-do spirit encourage others to pursue even the loftiest of dreams — nevermind that Lim could have perished chasing his own.

“I was documenting into the GoPro throughout things like, ‘Pressure is dropping drastically. Ascent rate is very powerful and healthy at 7 m/sec.’ From my mental calculation, I knew that medically at 24,000 ft, I should knock out; but I didn't. Therefore, I pressed on. And in documenting, I said: ‘I'm now lifting the red guard to the abort button. And I'm putting my finger below it. The moment I feel anything, I will flip it.’”

“As a pilot who wanted to do this for Singapore, I wanted to go to the last minute. And I might have been able to make it if those at base station hadn't terminated me. They did the right thing. Knowledgeable people will know that I might not have made it back alive.”

The return was as smooth as a commercial aircraft landing on the tarmac, Lim claims. What he didn't bargain for was that the parachute would engage two minutes later, dragging the capsule, and him, tumbling about in it, across the mountainous terrain in four bursts. “At that point, I felt that I was going to die,” he shares.

At base camp, his wife fell to her knees in shock.

Through it all, Lim was able to take down 14 points for improving the design of the space capsule. “Us engineers are die-hards,” he tells me with obvious pride.

His next attempt at crossing the Armstrong line is scheduled for 15 March 2020. Before that, he needs to raise \$500,000 to \$800,000 to build an improved space capsule — a two-seater this time — and a satellite communications link.

The founder of technology startup In.Genius, Lim reveals he has poured “a few million” of his savings into the project. “We need support. And I feel that I've earned the credibility to ask now. So I'm asking that if you believe in us, step forward. Help us continue this journey of sending a Singaporean into space.”

Lim passes me a sheet of paper on which he has scrawled three names: Wesley D'Aranjo (Mindef's deputy secretary for technology and chief technologist in the 90s), Loh Jwee Poh (managing director of Unifood International) and Tay Lim Hock (sovereign wealth fund GIC's chief operating officer). He wants me to reiterate his gratitude for “their personal support and real contributions”.



“WE CARE TO DO THIS BECAUSE WE WANT TO CHAMPION A CHANGE OF MINDSET AND MENTALITY IN SINGAPOREANS”

But why is an entrepreneur, with projects ranging from harvesting solar energy from space to converting algae into jet fuel, entering the space race as a non-profit endeavour?

“I am as ordinary as anybody. But I'm privileged and lucky to have been given opportunities to be what I am today. And I want to give back in a sincere sense,” he replies.

The Singapore government offered Lim six scholarships, four of which he accepted, including postgraduate degrees in physics, electrical engineering and computer engineering. While employed by the SAF, he helped develop its first Air Force Operations Command Centre and pioneered the first UAV simulator in the world. He later joined Airbus.


In 2013, Lim, by then self-employed, resolved to send the first Singaporean into space. He renewed this pledge in 2015, when founding Prime Minister Lee Kuan Yew passed on. Lim, who was then at the Tata Institute of Fundamental Research in India putting “space rats” through thermal chamber tests, flew back and left a memo at Lee's wake that read: “Thanks for bringing Singapore from a fishing village to a first-world country; we shall attempt to teleport Singapore to space.”

“We want to do this because there's a lack of space in Singapore. Yes, it's a play on the word. It's also philosophical. When you solve a problem, you always go to a higher dimension, because the perspective is different from there,” Lim explains.

“The stratosphere is virgin land. If there's a lack of space in Singapore, let's create it; we can create solutions.”

Just don't ever tell him that the odds aren't good. “I have a positive mental model. I always tell my team, if you come to me with a comment or criticism, please make it a constructive one.”

“When one sees a glass, there's a tendency to say it's half full; very few say it's half filled. But it's a training of the mind. That's why education for kids should start with soft skills. First, they need to know that they are born to do big things. And two, we should teach them to be happy. Happiness is your left brain telling your right brain to choose to be happy. School can't be just about math and science.”

“That's why I say we need to champion this change.” 

To help send the first Singaporean to the edge of space, email ingenius.gospace@gmail.com

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